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Suppliers' Information Note

For The BT Network

BT Redcare®
Service Description and Technical Information for Suppliers

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® Redcare is a Registered Trade Mark of British Telecommunications plc

1. Introduction

This Suppliers' Information Note (SIN) gives information about the BT Redcare Service which is provided from a Protected Premises over the BT analogue local access network and the BT Redcare network to an Alarm Receiving Centre.

2. Service Outline

Making use of the BT analogue local access network and a dedicated BT Redcare network, the BT Redcare Service provides a secure line monitoring service aimed at alarm monitoring and reporting and hence at the intruder and fire alarm markets.

By means of continuous monitoring of the transmission link, and the status of the alarm reporting equipment in the Protected Premises, the service is able to quickly detect alarm activities or attempts to compromise the continuity of the communications link. The information thus gathered is passed through the BT Redcare network to an alarm company central receiving station known as an Alarm Receiving Centre.

3. Service Availability

This service is no longer available for new supply and will be withdrawn 1 August 2025 For equivalent new future proofed solutions for the all-IP world please visit redcare.bt.com

3.1 Service Coverage

The service is available nationally where network capacity exists.

For further information on national service coverage please contact:

Redcare General Information Helpdesk
0800 800 828

3.2 Protected Premises Provision

The BT Redcare Service will deliver, and respond to, specific encrypted signals carried over exchange lines provided in the local network.

3.2.1 Network Limitations

There are some circumstances when the BT Redcare Service cannot be provided, for instance, if the exchange line is provided by a local access delivery system. In such cases a PSTN exchange line would be needed which does not make use of, for instance, a pair-gain concentration device.

BT Redcare connections were made ADSL compatible in Feb 2004. For further information on service provision please contact:

Redcare General Information Helpdesk
0800 800 828

3.2.2 Terminal Incompatibility

There are some circumstances when the BT Redcare Service may be incompatible with existing terminals. Such incompatibility may occur with, for instance, modems, facsimile, payphones, Private Exchanges or if the REN of 4 is exceeded. Such occasions are relatively rare with the introduction of the latest Redcare fifth generation STU.

If incompatibility remains a difficulty then a separate PSTN exchange line would need to be provided.

For further information on service provision please contact:

Redcare General Information Helpdesk
0800 800 828

3.3 Alarm Receiving Centre Provision

The BT Redcare Service will deliver the information gathered by means of continuous monitoring of the transmission link at the Protected Premises over the BT Redcare network to an alarm company central receiving station known as an Alarm Receiving Centre.

4. Description of Interfaces

4.1 Protected Premises Network Terminating Equipment

The BT Redcare Protected Premises NTE is provided either as a BT 80A/92A line box or Line Terminating Unit (LTU) 102/3A.

Both of these are provided for BT Redcare by Openreach from a standard PSTN line box (NTE).

4.1.1 BT 80A/92A

Interface using BT 80A/92A

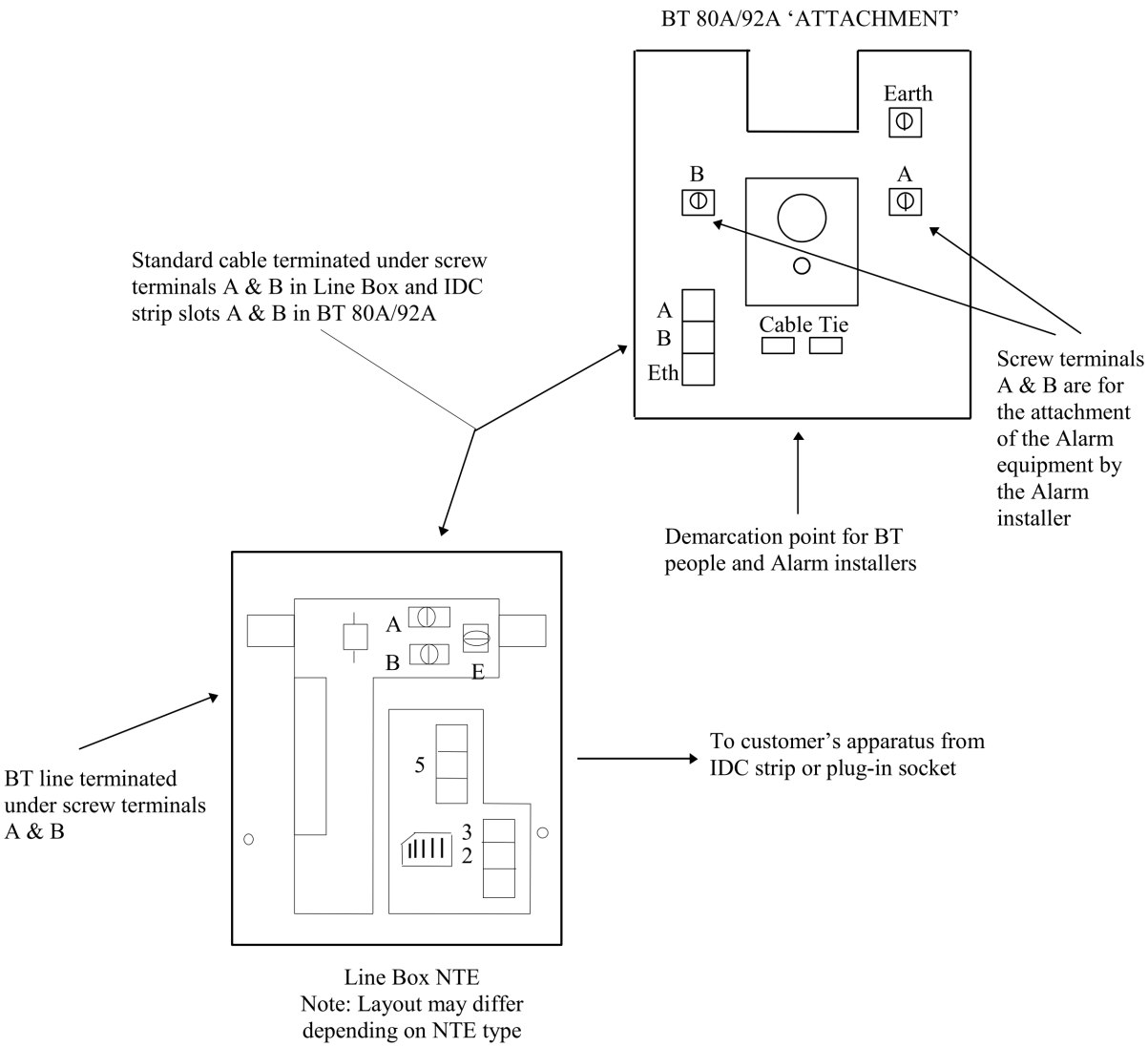
BT 80A/92A 'ATTACHMENT'
Earth
B
A
Standard cable terminated under screw terminals A & B in Line Box and IDC strip slots A & B in BT 80A/92A
A
B
Eth
Cable Tie
Screw terminals A & B are for the attachment of the Alarm equipment by the Alarm installer
Demarcation point for BT people and Alarm installers
A
B
E
5
3
2
BT line terminated under screw terminals A & B
To customer's apparatus from IDC strip or plug-in socket
Line Box NTE
Note: Layout may differ depending on NTE type

Figure 1 An Explanatory Picture of Interface using BT 80A/92A.

4.1.2 LTU 102/3A

Interface using LTU 102/3A.

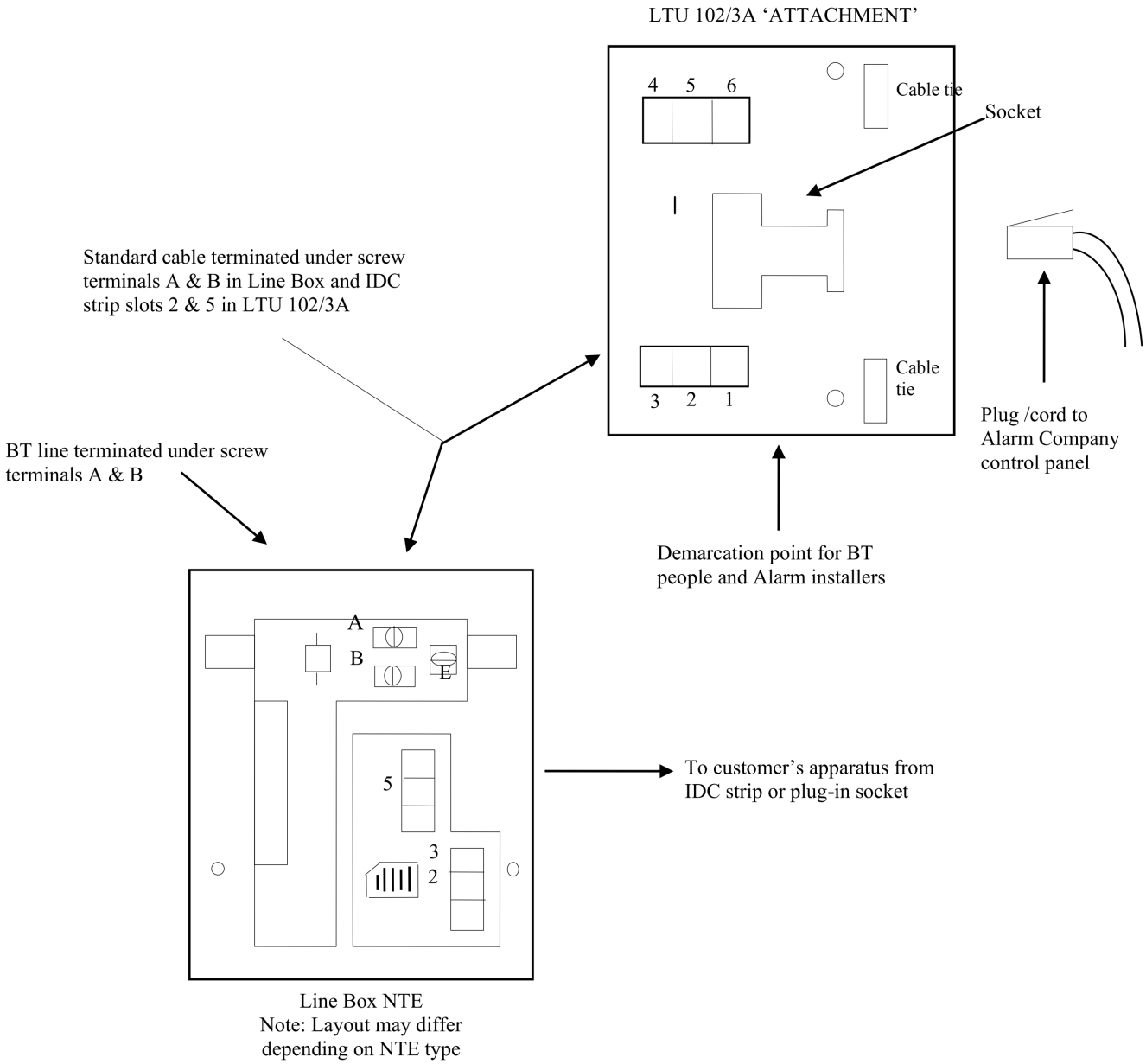
LTU 102/3A 'ATTACHMENT'
4 5 6
Cable tie
Socket
Standard cable terminated under screw terminals A & B in Line Box and IDC strip slots 2 & 5 in LTU 102/3A
Cable tie
3 2 1
Plug /cord to Alarm Company control panel
BT line terminated under screw terminals A & B
Demarcation point for BT people and Alarm installers
A
B
E
5
3
2
To customer's apparatus from IDC strip or plug-in socket
Line Box NTE
Note: Layout may differ depending on NTE type

Figure 2 An Explanatory Picture of an Interface using LTU 102/3A

4.1.3 Interface Characteristics

The interface characteristics of the BT Redcare Protected Premises service are those of the BT PSTN.. The exception is the ability to accept out-of-speech-band signals.

4.1.4 Signalling Characteristics

In the Normal (Upped) State the prescribed Terminal Equipment (known as an STU) transmits a continuous out-of-speech-band signal which is modulated and contains an encrypted identity message. This out-of-speech-band signal is detected by the BT Redcare Scanner at the BT local exchange and is used to maintain the integrity of the system.

If this out-of-speech-band signal is lost, or the data encoded in the signal is not correct, the BT Redcare Scanner will schedule a 'POLL' signal to be sent to the STU.

The POLL signal is an in-speech-band signal of duration approximately 500 ms containing data encrypted with the unique key for that STU. It is injected into the PSTN exchange line irrespective of the line status of any other TE (hence it may be audible to a telephone user). The STU (if it is in the Normal State) will respond with a 'RESPONSE' in-speech-band signal.

The POLL-RESPONSE data exchange is the method by which alarm and status information is passed between the STU and the Scanner.

If an alarm is triggered at the protected premises, the STU receives relevant signals from the alarm system and immediately ceases the transmission of the out-of-speech-band signal to the BT RedCARE Scanner. This cessation of the out-of-speech-band signal forces a POLL-RESPONSE cycle as detailed above and allows the transmission of the alarm signal in the response message.
A typical alarm transmission exchange from the assertion of the alarm trigger to the POLL-RESPONSE message sequence is typically 8 seconds. This gives an end-to-end transmission time (from alarm trigger to delivery to the Alarm Receiving Centre) of less than 20 seconds, which is a requirement of the relevant British Standard for Intruder AlarmSystems

BS EN 50131-1:2006+A2:2017[1],

Additional information regarding the implementation of alarm transmission systems and equipment, for systems using dedicated alarm paths, can be found in BS EN 50136-1-:2012[2].

4.2 Alarm Receiving Centre Network Terminating Equipment

4.2.1 V.24 / V.28 Interface

The BT RedCARE Alarm Receiving Centre Network Terminating Equipment (NTE) provides an interface conforming to ITU-T V.24[3]/V.28[4] (RS-232-C) and is configured as Data Communications Equipment. It is an industry standard serial binary data port using a 25 way female D-type connector. The physical interface is 3-wire comprising transmit, receive and common ground.

The interface parameters are:-
Asynchronous data format
Baud rate: configurable from a range of 1200, 2400, 4800, 9600, 19200
Data bits: 8
Parity: none
Stop bits: 1
Flow control: software DC1/DC3 (Xon/Xoff), as defined in ITU-T T.50[5] , for control of inbound signals to ARC only
Start bits: 1

4.2.2 Ethernet Interface

The BT Redcare Alarm Receiving Centre Network Terminating Equipment (NTE) provides a 10/100BaseTX auto-speed sense Fast Ethernet port conforming to IEEE 802.3[6] for IP connection to the BT RedCARE network. It is provided as an industry standard RJ45 port requiring CAT5 compliant cabling between the NTE and the customer equipment.

5. Further Information Contact Points

For "sales and marketing" information about this service please contact your preferred alarm company.

Alternatively please contact either

- Your Company's BT Account Manager.
- For Personal customers, BT Sales 0800 800 150 for product and service information, sales and rental enquiries.
- For Business customers, BT Sales 0800 800 152 for product and service information, sales and rental enquiries.
- For general enquiries about BT Redcare, the Redcare General Information Helpdesk 0800 800 828.

6. Intellectual Property Information

The security-oriented nature of the service requires the use of an encrypted signalling method that is the subject of Intellectual Property (IP).

Terminal Equipment (TE) suppliers wishing to obtain relevant information regarding this Intellectual Property should contact:

Redcare – General Manager

1 Braham street

London

E1 8EE

Telephone 0800 800 828

7. Terms and Abbreviations

Abnormal (not-upped state)	An electrical condition into which the TE when connected to the network is placed such that it is quiescent
ADSL	Asymmetric Digital Subscriber Line
ARC	Alarm Receiving Centre
BS	British Standard
CARE	Communicating Alarm Response Equipment
CAT5	Category 5 Cable (Used in 100 Base-T Fast Ethernet networks)
CSMA/CD	Carrier Sense Multiple Access / Collision Detect
D-Type	Computer industry standard connector
DCE	Data Circuit-Termination Equipment
DTE	Data Terminal Equipment
IEEE	Institute of Electronic and Electrical Engineers
IP	Internet Protocol
IP	Intellectual Property
ITU-T	International Telecommunication Union – Telecommunications Standardisation Sector
Normal (upped State)	An electrical condition into which the TE when connected to the network is placed such that it transmits an out-of-speech-band signal which is modulated and contains an encrypted identity message
NTE	Network Terminating Equipment
REN	Ringer Equivalence Number, determined by test method as described in BS 6305
RS-232	Physical Interface electrically unbalanced allowing data exchange to ITU-T V.24
SIN	Suppliers' Information Note
STU	Subscribers' Terminating Unit
TE	Terminal Equipment

8. References

[1]	BS EN 50131-1:2006+A2:2017 Alarm systems – Intrusion and hold up systems
[2]	British Standard EN 50136-1-2:2012 - Alarm Systems - Alarm Transmission Systems and Equipment. Part 1-2:
[3]	ITU-T Recommendation V.24 - List of Definitions for Interchange Circuits between Data Terminal Equipment (DTE) and Data Circuit-Termination Equipment (DCE).
[4]	ITU-T Recommendation V.28 - Electrical Characteristics for Unbalanced Double-Current Interchange Circuits.
[5]	ITU-T Recommendation T.50 – International alphabet N°.5.
[6]	IEEE 802.3, Standards for Local Area Networks: CSMA/CD Access Method.

9. History

Issue 1	August 1999	First Issue
Issue 1.1	November 2001	Editorial update
Issue 1.2	August 2003	ARC Ethernet interface option added (Clause 4.2.2). Approval Requirements statement removed, information available via SINet Useful Contacts page. Contact telephone numbers updated.
Issue 1.3	November 2003	ADSL compatibility statement updated (Clause 3.2.1)
Issue 1.4	December 2004	Contact telephone number updated. Time expired information on ADSL compatibility removed.
Issue 1.5	February 2011	Contact details in Section 6 updated
Issue 1.6	November 2014	Change SINet site references from http://www.sinet.bt.com to http://www.btplc.com/sinet/
Issue 1.7	December 2017	Update to Intruder Larm transmission Systems and General Manager address
Issue 1.8	February 2020	Note added that service no longer available for new supply
Issue 1.9	July 2020	Change SINet site references from http://www.btplc.com/sinet/ to https://www.bt.com/about/sinet
Issue 2.0	April 2023	Note added that service will be withdrawn 31 December 2025, contact address and registered address updated
Issue 2.1	March 2024	Date of withdrawal brought forward to 1 Aug 2025

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